

Conserving America's Fisheries

**U.S. Fish and Wildlife Service
Department of the Interior**

Fisheries Program

Northeast Region Strategic Plan

2004 - 2008

A Message from the Regional Director

It is my great pleasure to offer you, our partners and stakeholders, this Strategic Plan (Plan), which will serve as guidance for the activities of the Northeast Region Fisheries Program for the next five years. This document is a statement of the Region 5 Fisheries Program's (Program) goals and objectives, and the tactics it expects to use to achieve these goals and objectives. It was developed in cooperation with many of the Service's partners in the Northeast Region, including State and Federal environmental agencies, Native American Tribes, conservation and fishing organizations and private industry, as well as with other Service programs.

The Plan is comprehensive and ambitious. The Program will be held accountable for meeting the Plan's objectives – by the Director, by me, and by you. It will not be able to achieve all of these objectives single-handedly. It will need your help. Partnerships will be key. While some of this Plan is already being implemented through established partnerships, much is new and will require forging new working relationships. Therefore, I invite you to consider this Plan as both a re-commitment to existing partnerships and as an opportunity for new cooperative ventures.

I am very proud of this Plan, and proud of the collaboration with our partners and stakeholders that it represents. In a very real sense it is YOUR plan too, and you should feel justifiably proud. We look forward to continuing to work with you to conserve the Northeast's fisheries.

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Rick O. Bennett
Acting Regional Director

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Executive Summary

The Service's Northeast Region (Region) encompasses 13 states from Maine to Virginia. In the Region, 25 Fishery Management Offices and National Fish Hatcheries work with States and other partners to restore and protect a variety of fish and other aquatic species. This Northeast Region Strategic Plan (Plan) is an extension of the U.S. Fish and Wildlife Service's Strategic Vision document, "Conserving America's Fisheries, U.S. Fish and Wildlife Service Fisheries Program Vision for the Future," describing more specifically the tactics to be implemented by the Region during the next five years to fulfill the goals and objectives identified in the Vision. This Plan was developed in cooperation with approximately 40 partners and stakeholders representing States, Tribes, other Federal agencies, and angling and aquatic conservation groups. The Fisheries Program (Program) and its partners and stakeholders recognize that many responsibilities for managing and conserving fish and other aquatic resources are shared, and overall success is contingent upon the combined knowledge, resources and commitment of each party.

The Region's fish and other aquatic resources are among the richest and most diverse in the Nation. The Region can be characterized as a complex environment heavily influenced by human disturbances. Because of its long history of industrialization, resource extraction, water quality impacts, high energy needs and other human demands on the environment, fishery resources of the Region require extensive cooperative management, restoration and recovery. Despite efforts by the Service and others to conserve fish and other aquatic resources, a growing number are declining at alarming rates. The reasons for declines are linked largely to habitat loss or alteration, including flow changes, dams and other watershed modifications, sedimentation and pollution, and the impacts of exotic species. Biological and social scientists, government agencies, conservation groups, and the American public are becoming increasingly concerned about the decline of fish and other aquatic resources and the economic impact of those declines. In this Plan, the Program has re-committed to its obligations and, with our partners, is identifying ways to work together to restore and recover the fishery resources of the Region.

This Plan represents the Region's understanding, developed with its partners and stakeholders, of its activities and priorities for the next five years. Implementation of specific activities in the Plan will always depend on the availability of resources. This plan will be implemented through annual work plans, detailing projects that link back to the Strategic Plan. The Program will use five criteria to decide what activities to implement, in consultation with partners. These criteria are:

1. The strength of Federal authority and responsibility;
2. The extent to which our efforts will complement others in the fisheries and aquatic resource conservation community;
3. The likelihood that our efforts will produce measurable resource results;
4. The likelihood that our efforts will produce significant economic or social benefits; and
5. The extent of partner support.

Determining the Program's success in implementing this Plan will be based on annually monitoring and evaluating accomplishments. The Program will report annually on its progress through meetings with our partners and through reports to Congress. During 2007, the Program will inventory: (1) the status of the Region's aquatic resources in order to determine the progress made in conserving the Region's fisheries over the previous five years, and (2) the structure, role, and effectiveness of the Program. Conclusions drawn from these inventories will serve to guide the development of the next five-year Strategic Plan during the 2008 fiscal year.

This Plan includes Regional program plans for the focus areas and goals in the National Fisheries Program Strategic Vision for the Future, with the exception of the Mitigation Fisheries Goal, which is not applicable to this region. Each of the seven focus areas (or each of the three goals under the Aquatic Species Conservation and Management focus area) includes Objectives, challenges/opportunities, and tactics. Program plans include specific quantitative objectives that originate from the Department of the Interior Strategic Plan.

Preface

As an agency of the U.S. Department of the Interior (DOI), the U.S. Fish and Wildlife Service (Service) conserves, protects and enhances fish and wildlife and their habitats for the benefit of present and future generations. Service biologists contribute toward the health of our environment -- and consequently our quality of life -- by protecting and restoring important wildlife habitat, safeguarding endangered species, minimizing environmental contamination and restoring fish populations. In addition, the Service provides funds to support State fish and wildlife programs and enforces Federal laws protecting wildlife.

The Service's Northeast Region (Region) encompasses 13 states from Maine to Virginia. More than 66 million people, about a quarter of the Nation's population, live within this area, where the Service's nearly 1,000 employees work in the Regional Headquarters, field offices, National wildlife refuges and fish hatcheries.

The Service's Fisheries Program (Program) maintains healthy populations of coastal and anadromous fish (fish that spend part of their lives in fresh water and part in the ocean), fish species that cross State or National boundaries, and endangered aquatic animals and their habitats. In the Northeast Region, 25 fishery management offices and National Fish Hatcheries work with States and other partners to restore and protect a variety of fish and other aquatic species. Examples include Atlantic salmon, striped bass, American shad, river herring, sturgeon, horseshoe crab, American eel, and lake trout.

Introduction

The Program has played a vital role in conserving and managing fish and other aquatic resources since 1871. Today, the Program is a critical partner with States, Tribes, other governments, other Service programs, private organizations, public institutions, and interested citizens in a larger effort to conserve these important resources. In 2002, working with its many partners in aquatic conservation through the Sport Fishing and Boating Partnership Council's Fisheries Steering Committee, the Service completed its Strategic Vision (Vision) document: "Conserving America's Fisheries, U.S. Fish and Wildlife Service Fisheries Program Vision for the Future." The Vision includes goals, objectives, and action items on a National programmatic scale.

This Regional Strategic Plan (Plan) is an extension of the Vision, describing more specifically the tactics to be implemented by the Region during the next five years to fulfill the goals and objectives identified in the Vision. This Plan was developed in cooperation with approximately 40 partners and stakeholders representing States, Tribes, other Federal agencies, and angling and aquatic conservation groups. The Program and its partners and stakeholders recognize that many responsibilities for managing and conserving fish and other aquatic resources are shared, and overall success is contingent upon the combined knowledge, resources and commitment of each party.

Vision

The vision of the Service is working with partners to restore and maintain fish and other aquatic resources at self-sustaining levels and support Federal mitigation programs for the benefit of the American public. To achieve this vision, the Program is committed to working with our partners to:

- Protect the health of aquatic habitats;
- Restore fish and other aquatic resources; and
- Provide opportunities to enjoy the many benefits of healthy aquatic resources.

Regional Status and Trends

The Region's fish and other aquatic resources are among the richest and most diverse in the Nation. These resources, and the recreational, commercial, and intrinsic values they provide, have produced enormous ecological, social and economic benefits. Recent preliminary surveys conducted by the Service show that recreational fishing contributes several billion dollars annually and tens of thousands of jobs to the Region's economy. Fish and other aquatic resources are particularly important to States and Tribes which rely upon diverse, sustainable natural resources to support commercial and recreational fishing, tourism, environmental health, subsistence, and other economic needs.

The Region includes many political subdivisions - 13 states, the District of Columbia, and 17 Federally recognized Tribes - and shares a lengthy border with Canada. The Region boasts a wide variety of aquatic habitats from the lower Great Lakes and coastal Atlantic Ocean, to wetlands, salt lagoons, estuaries, and the grand rivers of New England and the Mid-Atlantic, all fed by cold, clear mountain streams of Appalachia. We are also home to the largest and most productive estuary in America - the Chesapeake Bay. This vast variety of aquatic habitat types has bred a similar diversity of living resources. Coastal, estuarine and riverine migratory fish, highly valued resident sport fish, and the habitats and food webs upon which they depend all contribute to the breadth and scope of the Program activities in the northeast.

Aside from its wealth of natural aquatic resources, the Region can be characterized as a complex environment heavily influenced by human disturbances. While the 13 Northeast States comprise less than 7 percent of the U. S. landmass, almost 25 percent of the Nation's population resides here. Many of the over 10,000 dams in the Region, identified in the Army Corps of Engineers (ACE) dam database, including hydroelectric projects, block fish passage to river spawning grounds. As with the rest of the Nation, 40-60 percent of our historic wetlands have been lost to development in the past 200 years. Because of its long history of industrialization, resource extraction, water quality impacts, high energy needs and other human demands on the environment, fishery resources of the Region require extensive cooperative management - and in many cases - restoration and recovery.

Despite efforts by the Service and others to conserve fish and aquatic resources, a growing number are declining at alarming rates. Dozens of aquatic species either have, or need, special

protection in some part of their natural or historic range. The number of species listed as threatened or endangered under the Endangered Species Act in 2002 has increased nationally to 19 amphibian species, 21 crustacean species, 70 mussel species, and 115 fish species. Many of these species, including almost 40 percent of all listed freshwater mussels, reside in or share border rivers with the Northeast Region. Many anadromous fish species, which spawn in freshwater but spend most of their lives at sea, occur in large rivers of the Northeast and require extensive cooperative programs for restoration and management. These include the highly valued and historically important American shad, river herrings, Atlantic salmon, sturgeons and striped bass.

The reasons for declines in aquatic populations are linked largely to habitat loss or alteration - including flow changes, dams and other watershed modifications, sedimentation and pollution - and the impacts of harmful exotic or transplanted species. Dozens of species of non-native fish and mollusks have been introduced to Northeast waters. Some of these, such as zebra mussels, Asian and European clams, carps, eels and crabs can cause significant harm to native fish and other aquatic resources. Native resources are especially threatened by these invaders because of their rapid spread through connected waterways. Since the unintentional introduction of zebra mussels into the lower Great Lakes and their subsequent spread southward into major Northeast and mid-continental rivers the number of native mussel species has declined substantially. Clearly, the Nation and the Region are at risk of losing their diverse aquatic resources and the critically important benefits they provide.

Biological and social scientists, government agencies, conservation groups, and the American public are becoming increasingly concerned about the decline of fish and other aquatic resources and the economic impact of those declines. They point with increasing urgency to actions that must be taken to reverse these alarming trends. Management and conservation of virtually all fish and other aquatic resources are a shared responsibility. Success in reversing the trend will rely on continuing existing partnerships and forging new partnerships that cut across jurisdictions and link all affected stakeholders.

In this Plan, the Program has re-committed to its obligations and, with our partners, is identifying ways to work together to restore and recover the fishery resources of the Northeast. To move forward, the Program must be solidly supported, backed by sound science, and grounded in dynamic partnerships.

Implementation

This Plan represents the Fisheries Program's understanding, developed with its partners and stakeholders, of its activities and priorities for the next five years. However, while some activities can be addressed with existing resources, others cannot be completed without additional funding, staff, or cooperation by partners. Implementation of specific activities will always depend on the availability of resources. At the same time, the Program will continue to work with partners to identify additional sources of funds.

The Plan will be implemented through annual work plans, detailing projects that link back to the Vision. In developing these annual work plans, the Program will use five criteria in deciding what fishery activities, opportunities, and issues to address, and partners will be consulted as key decisions are made that affect the direction of the Program. The criteria are based on the identification of a Federal role and a determination of whether or not the Service is the most appropriate Federal agency. The Service will weigh proposed and potential activities by:

- The strength of Federal authority and responsibility;
- The extent to which our efforts will complement others in the fisheries and aquatic resource conservation community;
- The likelihood that our efforts will produce measurable resource results;
- The likelihood that our efforts will produce significant economic or social benefits; and
- The extent of partner support.

Evaluation and Reporting

Determining the Program's success in implementing the Plan will be based on annually monitoring and evaluating accomplishments. This evaluation phase will provide the information required to "fine tune" Regional Fisheries Program priorities, annual work plans, and budgets.

Equally important is communicating successes and failures to our partners, stakeholders, Congress, and the Administration. The Program will report annually on its progress towards achieving Plan objectives through meetings with our partners and with each budget submission to Congress. A report to Congress will be written biennially.

Inventory and Revision

The Plan will guide the Region for the next five years, through the 2008 fiscal year. During the 2007 fiscal year, the Program, with input from partners and stakeholders, will inventory (1) the status of the Region's aquatic resources in order to determine the progress made in conserving the Region's fisheries over the previous five years, and (2) the structure, role, and effectiveness of the Fisheries Program. Conclusions drawn from these inventories will serve to guide the development of the next five-year Strategic Plan during the 2008 fiscal year.

Program Plans

This section includes Regional program plans for the focus areas and goals in the Vision, with the exception of the Mitigation Fisheries goal. No Federal locks and dams in the Northeast have legislation that mandates the Service to produce fish as mitigation for the project. Mitigation for other types of activities, such as federally licensed dams, is addressed under Aquatic Habitat Conservation (Goal 6). The definition of mitigation in the glossary provides additional information.

Each of the seven focus areas (or each of the three goals under the Aquatic Species Conservation and Management focus area) includes *objectives*, *challenges/opportunities*, and *tactics* (these terms are defined in the glossary). In some cases, there are challenges/opportunities for each objective, and tactics for each challenge/opportunity. In other cases, a set of tactics applies to all of a set of challenges/opportunities, and all of the challenges/opportunities apply to all of the objectives. The approach that was chosen depended on what worked best for the specific focus area or goal. In addition, other variations in format were chosen by plan authors to allow them to provide additional information and perspectives.

Note that the Program plans include general objectives that are the same as or similar to the objectives in the Vision. They also include specific quantitative objectives with dates for their accomplishment. These quantitative objectives originate from the DOI strategic plan. All DOI bureaus (such as Bureau of Land Management and National Park Service) and all Service programs (such as Fisheries (FR), Ecological Services (ES), and National Wildlife Refuge System (NWRS)) contribute to achieving these objectives. Thus, including these objectives in this Plan does not necessarily mean that the Program is solely responsible for achieving them.

1. Partnerships and Accountability

Goal: Open, interactive communication and collaboration between the Program and its partners with associated and shared accountability for meeting both short and long-term resource conservation goals.

Objectives

1.1. Develop and improve long-term internal and external partnerships to develop collaborative conservation strategies for aquatic resources.

1.2. Develop and implement performance measures to determine the efficiency and effectiveness of Program resource activities and financial accountability.

National Fish Hatchery System (NFHS)

- a. By September 30, 2008, establish 4 Friends Groups in support of NFHS facilities.
- b. By September 30, 2008, report 6080 volunteer participation hours per year at NFHS facilities.

Challenges and Opportunities: (The following Challenges and Opportunities apply to both Objectives)

1: There has been too little collaboration between the Program, other Service Programs, States and Tribes on priorities, goals and objectives, which has resulted in conflicting expectations and actions. Coordination within and outside the Service needs to be improved to optimize efficiencies and take best advantage of opportunities.

2: The Program has struggled to maintain a commitment to long-term cooperative programs. Improvement is needed in collaborative decision-making, continuity of support and staff representation, and open communication.

Tactics: (The following tactics apply to both Challenges and Opportunities.) Implement the following tactics by taking advantage of opportunities provided by existing river and lake restoration programs to collaborate with internal and external partners on priorities, goals and objectives, and measuring and marketing accomplishments. Convene annual or biennial sessions in conjunction with scheduled program meetings where possible. Invite additional partners including states, Tribes, non-governmental organizations, industry and other Service programs (e.g., ES, NWRS) as appropriate. Where there are no existing Service river restoration programs (such as the Hudson River Basin), convene the appropriate partners. The purposes of the sessions (as described in Tactics A-E) are to work cooperatively with internal and external partners to:

- improve relations and collaboration among partners

- define resource conservation goals
- develop and implement resource conservation work plans
- measure accomplishments, and
- market results in terms of public benefits.

The sessions will establish measures of success, assess current partner satisfaction levels, develop objectives for improvement, and evaluate progress.

Tactic A: Improve relations and collaboration among partners:

- Establish measures of successful partnership and collaboration
- Assess current partnership and collaboration satisfaction level and develop specific, measurable objectives for improving partner relations and collaboration, and
- Annually or biennially reevaluate partnership and collaboration success and develop specific objectives for improvement.

Tactic B: Define resource conservation goals:

- Establish joint resource conservation goals for resources addressed by river restoration programs and other appropriate resources
- Assess partner satisfaction levels with current Program resource conservation goals in relation to other program and/or partner goals
- Develop specific, measurable objectives for reviewing and revising resource conservation goals where needed and appropriate to improve alignment between Fisheries Program goals and other program or partner goals, and
- Annually or biennially reassess resource conservation goals and identify specific objectives for improvement.

Tactic C: Develop and implement resource conservation work plans:

- Develop workplans or adapt existing workplans as needed for accomplishing resource conservation goals, and
- Cooperatively implement workplans.

Tactic D: Measure accomplishments

- Establish and apply measures of successful resource conservation in relation to goals identified in Tactic B
- Assess partner satisfaction levels with a) resource conservation success in relation to goals, and b) effectiveness of measures of resource conservation success
- Develop specific, measurable objectives for a) improving resource conservation success, and b) improving measures of resource conservation, and
- Annually or biennially reassess a) success of resource conservation in relation to goals, and b) effectiveness of measuring resource conservation accomplishments; and develop specific objectives for improvement.

Tactic E: Cooperatively market the results in terms of public benefits

- Establish measures of successful marketing of results in terms of public benefits
- Assess partner satisfaction levels with current marketing at the Regional and field level

- and develop specific, measurable objectives for improving marketing, and
- Annually or biennially reassess success of marketing and develop specific objectives for improvement.

2. Aquatic Species Conservation and Management

A. Native Species

Goal: Self-sustaining populations of native fish and other aquatic resources that maintain species diversity, provide recreational opportunities for the American public, and meet the needs of tribal communities.

Objectives

2.1. Recover fish and other aquatic resource populations protected under the Endangered Species Act (ESA).

2.2. Restore declining fish and other aquatic resource populations before they require listing under the ESA.

2.3 Maintain diverse, self-sustaining fish and other aquatic resource populations.

Fish and Wildlife Management

- a. By September 30, 2008, 38% of threatened or endangered species listed a decade or more are stabilized or improved, due in whole or in part to Fish and Wildlife Management Assistance (FWMA) involvement.
- b. By September 30, 2008, ____% of candidate species are not listed as a result of conservation actions or agreements involving FWMA. [no candidates]
- c. By September 30, 2008, 26% of species of management concern are managed to self-sustaining levels due in whole or in part to FWMA involvement.
- d. By September 30, 2008, current condition (e.g. quantity and quality) and trend are known for 29% of populations managed or influenced by the Fisheries Program.
- e. By September 30, 2008, management plans are completed for 99% of populations managed or influenced by the Fisheries Program.

National Fish Hatchery System

- a. By September 30, 2008, implement 93.3% of Recovery Plan production tasks for aquatic species (listed under the ESA) that involve NFHS production activities.
- b. By September 30, 2008, implement 75.7% of Fishery Management Plan production tasks

for interjurisdictional and other trust species that involve NFHS production activities.

c. By September 30, 2008, meet 100% of post-stocking survival targets as prescribed by Recovery Plans, for hatchery propagated listed species.

d. By September 30, 2008, meet 88% of post-stocking survival targets as prescribed by Fishery Management Plans, for hatchery propagated depleted species.

e. By September 30, 2008, 17.3% of DOI watershed units will have current wild fish health surveys.

Challenges and Opportunities (the following Challenges and Opportunities apply to all three Objectives):

Obstacles to protecting, restoring and recovering healthy populations of native aquatic species include: inadequate planning and coordination, habitat loss, quality and quantity of available habitat, species competition and predation, and lack of information. Tactics to address challenges and opportunities and to determine work focus areas for native species will employ the five criteria identified in the Implementation section. To meet the Native Species Goal, Fisheries and partners will establish a planning and action framework which measures the status of native species and habitats, defines the breadth of existing problems, and identifies practical and achievable resolutions.

1.0 Planning/Coordination

1. The Program has not fully leveraged the involvement of partners in our efforts to implement recovery, restoration and sustainable aquatic native species activities.

Tactic A. Identify federally listed threatened and endangered aquatic species recovery plans that require revision. Assist Ecological Services (ES) and other partners to revise plans.

Tactic B. Assist ES and other partners in the implementation of recovery plans for federally listed threatened and endangered aquatic species.

Tactic C. Identify opportunities to provide technical assistance for the protection of native aquatic species and habitats on DOI managed and influenced lands and waters.

Tactic D. Identify priority native aquatic species that do not have management or

monitoring and research plans. Work with Service staff, states, and other partners to develop and implement management plans, as requested.

2. Past outreach efforts have not addressed the full potential of using education as a tool to assist and support the stewardship of native species, both in the present and the future.

Tactic A. Increase staff to develop information and education materials that promote recovery and restoration of native aquatic species and their habitats.

2.0 Habitat

1. Restoration of native aquatic species has been hindered by problems such as loss of soil buffering capacities due to acid rain; water extraction; sedimentation; eutrophication; chronic exposures to toxins; endocrine disruptors; elevated temperatures; and riparian habitat removal.

Tactic A. Work with other Service programs, Tribes, states, and other key partners to identify priority habitat restoration actions.

2. Fish passage problems from physical obstacles and natural impediments still exist. These represent recovery/restoration challenges for migratory fishes.

Tactic B. Continue to work with other Service programs, Tribes, states and other key partners to identify and prioritize fish passage obstructions and actions that can be taken to eliminate these obstacles.

3.0 Species Competition and Predation

1. Restoration programs for native species such as those in the Great Lakes are being negatively impacted by aquatic nuisance species, such as the sea lamprey.

Tactic A. Continue to work with federal, State, ES, NWRS, and Aquatic Nuisance Task Force partners to fund research and develop rapid response protocols to control invasive nuisance species. Work with partners to implement aquatic nuisance species (ANS) monitoring and control programs.

Tactic B. Implement Hazard Analysis and Critical Control Points (HACCP) planning processes among Program activities to prevent unintentional releases of aquatic nuisance species.

2. Native aquatic species recovery is also hindered by various predator populations.

Tactic A. Continue to work with Federal, State, ES, NWRS, and Law Enforcement partners to identify acceptable protocols to reduce the threats of predators to recovery programs.

3. The use of unmarked fish and non-native broodstock by commercial aquaculture operations may compromise the genetic integrity of native species, enhance resource competition, and introduce serious exotic pathogens (Infectious Salmon Anemia (ISA) and Spring Viremia of Carp (SVCv)).

Tactic A. Continue working with National Oceanic Atmospheric Administration (NOAA) Fisheries, the Atlantic Salmon Commission, ES, and various interagency workgroups on ways to minimize the impact of commercial salmon farms on native Atlantic salmon populations.

Tactic B. Continue working with Region 4 Fisheries and Virginia and North Carolina to minimize impacts of Spring Viremia of Carp Virus (SVCv) upon native cyprinids.

4.0 Information

1. Past efforts have not fully utilized and applied population conservation genetics as an important tool in establishing biologically sound recovery programs.

Tactic A. Provide increased expertise in population genetics to advise managers and develop population-level genetic tools appropriate for biologically sound recovery programs for threatened and endangered species.

Tactic B. Develop a database and provide a clearing house for genetic samples and analyses to address specific management questions and provide rapid-response turnaround for genetic needs associated with ESA planning.

2. Lack of knowledge about key life history events and factors affecting survival at various life history stages impedes recovery actions.

Tactic A. Continue working with existing cooperators and develop new partnerships with states, other federal agencies, the private sector and academia to address and fill information gaps in recovery planning and implementation.

3. Specific methodology and innovative tools have not been fully developed for state-of-the-art hatchery product evaluations.

Tactic A. Provide increased expertise and resources for the development of new and innovative “best science” tools for hatchery product evaluations.

4. The development and registration of therapeutic drugs has not kept pace with needs for protecting natural resources in restoration/recovery programs.

Tactic A. Develop partnerships with other agencies, the private sector, Fish Health Centers and the Service’s Investigational New Animal Drug Program to assist efforts to develop and register new therapeutants.

B. Aquatic Nuisance Species

Goal: Risks of ANS invasions are substantially reduced, and their economic, ecological, and human health impacts are minimized.

Objectives

2.4 Limit new introductions of aquatic nuisance species.

2.5 Minimize range expansion and population growth of established ANS.

Fish and Wildlife Management

a. By September, 2008, annually conduct 1 risk assessment to evaluate potentially invasive species.

b. By September, 2008, annually conduct 22 surveys for early detection of aquatic invasive species.

c. By September, 2008, annually rapidly respond to 1 population (plant or animal) recently discovered.

- d. By September, 2008, annually conduct 6 activities to support the management/control of aquatic invasive species.
- e. By September, 2008, annually support 6 state/interstate management plans to prevent and control aquatic nuisance species

Challenges and Opportunities (the following Challenges and Opportunities apply to both objectives)

- 1.** There is an increasing diversity and number of invasive species damaging native aquatic species and their habitats. Invasive species are often prolific and not subject to natural, ecological controls that evolved over time in their native range. Once invasive species are transported across barriers that formerly limited their dispersal, their introduction into suitable habitats occurs through a multitude of human activities such as transporting bait, and natural circumstances such as water currents.
- 2.** Strategies for assessing, controlling, eliminating or preventing aquatic nuisance species invasions are limited, often extremely costly, and sometimes infeasible. Management of invasive species is further complicated by limitations in our knowledge about ecosystem characteristics and about how introduced species affect the ecosystem. Aquatic nuisance species indiscriminately impact private and public property in the Northeast, including lands and waters managed or influenced by the Department of the Interior.

Tactics (the following tactics apply to both Challenges and Opportunities).

Tactic A. Increase efforts by assigning one biologist from each of 3 field stations with significant invasive species issues to work with the ANS Task Force, the National Invasive Species Council, regional panels, and others to identify and monitor high-risk pathways for the introduction of aquatic nuisance species and to participate in preventative actions to reduce the likelihood of the introduction of new aquatic nuisance species associated with those pathways.

Tactic B. Facilitate the prevention and control of aquatic nuisance species by coordinating with State agencies and intergovernmental organizations to stimulate the development of State or watershed management plans where none exist.

Tactic C. Provide Region 5 input into coordinating the Service's efforts in the re-

authorization of the National Invasive Species Act by providing review and comment of proposed legislation for incorporation into the Service's final comments at the Washington Office. The review and comment will include key staff in field offices, as well as the Regional Office, and will be coordinated by the Regional Invasive Species Coordinator.

Tactic D. Increase education and outreach activities through displays at three National Fish Hatcheries and three National Wildlife Refuges, and presentations to ten conservation organizations, to raise public awareness of aquatic nuisance species problems and how the public can help.

Tactic E. Implement Hazard Analysis and Critical Control Points (HACCP) or similar control planning processes in the NFHS and other Program activities to prevent the unintentional release or spread of aquatic nuisance species. HACCP Plans will be developed on a station-by station basis. North Attleboro NFH, White River NFH and Harrison Lake NFH will be among the first facilities to develop the Plans, which will be implemented in accordance with final Plan provisions.

Tactic F. Increase efforts to work with States, Tribes, and other partners by coordinating and/or implementing surveys and monitoring efforts to detect and control aquatic nuisance species, by ensuring biologists stationed at each of three field stations with significant invasive species issues participate in surveys or monitoring targeting one or more invasive species issues at each of the three stations.

Tactic G. Assign one biologist from each of three field stations with significant invasive species issues to work with the NWRS, States, Tribes, other federal agencies, and NGOs in the field stations's geographic area of responsibility to increase rapid response and other capabilities to control aquatic nuisance species populations and prevent their expansion.

C. Interjurisdictional Fisheries

Goal: Interjurisdictional fish populations are managed at self-sustaining levels.

Objectives

2.6 Co-manage interjurisdictional fisheries.

Fish and Wildlife Management

- a. By September 30, 2008, 26% of species of management concern are managed to self-sustaining levels due in whole or in part to FWMA involvement.
- b. By September 30, 2008, current condition (e.g. quantity and quality) and trend are known for 29% of populations managed or influenced by the Fisheries Program.

Challenges and Opportunities

1. The Service is among many authorities that set targets to maintain or increase fish populations, including the States, Atlantic State Marine Fisheries Commission (ASMFC), Mid-Atlantic and New England Fishery Management Councils, and various commissions and committees. The Service and its Fisheries Program must work effectively and cooperatively with these authorities to avoid conflicting decisions, which may adversely affect intergovernmental relations and measures that affect fish populations.

Tactic A. Coordinate through recurring meetings and tele-conferencing as required by management, work, and program planning documents with representatives from fishery management commissions and councils, international, federal, and state fishery resource agencies, tribes, and partners/stakeholders to clarify roles and responsibilities and develop and implement mutually identified and supported MOUs and Agreements, guidance documents and work plans, aimed at recovering, restoring and conserving interjurisdictional fisheries.

Tactic B. Represent the Service in a variety of capacities on committees and boards of the ASMFC that address species such as striped bass, American shad, river herring, sturgeon, weakfish, flounder, menhaden, horseshoe crab, American eel, and their habitats.

Tactic C. Cooperate with ES and international, Federal and State resource agencies, tribes, and partners/stakeholders in the restoration and management of Atlantic salmon to include participation in and attendance at U.S. Atlantic Salmon Assessment Committee (ASAC), NASCO, and ICES activities and meetings to achieve mutually identified and supported management objectives.

2. Managing fish species of concern and harvested fish populations to levels and conditions as defined in approved management plans may be impeded by: a) the natural variability in fish stock abundance can affect population levels; b) habitat loss and change, and climatic variation which can adversely alter aquatic resource production; c) fish stock responses to management measures may not be well understood; and d) existing and new fish diseases, genetic abnormalities, and the occurrence or introduction

of non-native fish stocks may threaten the health of wild and cultured fish.

Tactic A. Update, develop and implement genetic and disease management plans, bio-security plans, and standard operating procedures, as well as identify, manage, and control fish diseases in Service hatcheries and, where possible, disease in wild fish. Be available to assist states, Tribes, other government agencies, partners and stakeholders to address these issues in state and, where appropriate, private hatcheries.

Tactic B. Continue to work with federal, state, tribes, and partners/stakeholders to identify problems and develop innovative measures to eliminate or mitigate habitat loss and perturbation, disease, overharvest, genetic impairments and other threats to robust and healthy populations of fish and aquatic resources. Development and implementation of plans for mitigative measures or solutions will be guided by a variety of program committees and workgroups where Fisheries Program and other Service staff are active participants.

Tactic C. Provide Service representation at regional fisheries fora and at select national and international meetings that relate to management, habitat protection, science, and propagation of interjurisdictional fish. Ensure staff are engaged through participation on committees and provide a high level of scientific expertise addressing fishery management.

Tactic D. Work with counterparts at the Regional and National levels, with international, Federal, and State aquatic and fishery resource agencies, tribes, partners/stakeholders, private sector, and academia to identify and resolve information gaps and deficiencies, and to develop and implement innovative methodologies and actions to better understand the mechanisms limiting abundance and health of interjurisdictional fish populations and aquatic resources.

Tactic E. Develop enhanced expertise in population genetics, fish health, population dynamics, and disseminate pertinent information and advice to fish and wildlife resource scientists, managers and interested parties by providing ongoing training for existing staff, hiring skilled and specialized staff, providing timely response for technical assistance and information requests, hosting and promoting specialized workshops, training opportunities, and scientific meetings.

3. Commercial and private interests in noncompliance with established protective regulations adversely affect the size, health and well being of aquatic resources and ecosystems on which they depend.

Tactic A. Continue to coordinate with and work closely with commercial and private interests, with law enforcement and regulatory authorities, other Service programs, other Federal and State agencies, Tribes, and partners/stakeholders to identify and implement

protocols and measures to eliminate violations and noncompliance with protective measures.

2.7 Support, facilitate, and/or lead collaborative approaches to manage interjurisdictional fisheries.

Fish and Wildlife Management

- a. By September 30, 2008, complete management plans for 99% of populations managed or influenced by the Fisheries Program.

Challenges and Opportunities

1. Adequate planning and cooperation are required to develop and adapt management plans and agreements, guidance documents, and work plans. The Service and its Fisheries Program must involve appropriate stakeholders to ensure that goals and objectives and related actions address priority interjurisdictional fish and aquatic resource needs.

Tactic A. Actively engage (at recurring annual, bi-annual, and quarterly meetings and as the need arises) commissions, councils, state and federal fishery resource agencies, tribes, other Service programs and other affected partners/stakeholders in the development and implementation of management plans and supporting MOUs and Cooperative Agreements aimed at the restoration and conservation of interjurisdictional fisheries, habitat protection, and where appropriate the commercial and recreational harvest of interjurisdictional fishes.

Fish and Wildlife Management

- b. By September 30, 2008, assess current condition (e.g. quantity and quality) and trends for 30 percent of interjurisdictional fish populations.

Challenges and Opportunities

1. Establishing and implementing scientifically based assessment and monitoring programs to identify meaningful trends in fish populations requires adequate staff and financial support, and adherence to prioritized schedules and plans. Projects to develop the best information possible about current fish population trends and health are often greatly reduced in scope and scale given limitations and constraints.

Tactic A. Clearly identify Service research needs and priorities in reports, summary

documents, and memoranda in accordance with reporting requirements in management plans, annual reports, and stock assessment reports to ensure that counterparts at regional and national levels, at international, Federal, and State agencies, and within Tribes and partner/stakeholder organizations are aware of key initiatives, and are better able to respond with assistance, guidance, and expertise.

Tactic B. Through meetings, discussion, tele-conference, and summary reports, maintain, manage, and share technical expertise, equipment, data and study results associated with hatchery production, spawning, and stocking activities, and surveys and assessments of the abundance and health of hatchery reared and wild fish in the Connecticut, Delaware, James, Merrimack, Penobscot, Potomac, Rappahannock, Susquehanna rivers, in the Lower Great Lakes and Lake Champlain, and in other interjurisdictional watersheds and lakes in the Northeast Region.

Tactic C. In accordance with established management plans and schedules, conduct stock assessments and evaluate stock status of interjurisdictional fishes and aquatic resources throughout the Region including but not limited to shad (American and hickory), herring (alewife and blueback), Atlantic salmon (sea-run and landlocked populations), walleye, lake trout, forage fish and other ecologically important fish species.

3. Recreational Fishing

Goal: Quality opportunities for responsible fishing and other related recreational enjoyment of aquatic resources on Service lands, on Tribal and military lands, and on other waters where the Service has a role.

Objectives

3.1 Enhance recreational fishing opportunities on Service and Department of Defense lands.

National Fish Hatchery System

- a. By September 30, 2008, maintain 86.9 % of public use assets in good or fair condition as measured by the DOI FCI, using total repair and replacement values.
- b. By September 30, 2008, provide 650,000 recreational angler days.

Challenges and Opportunities

On Service Lands

1. Water management on some NWRS may detract from appropriate water quality and quantity for sustaining quality freshwater fisheries.
2. Disturbance to other wildlife caused by recreational fishing is not compatible with refuge operations.
3. With increased angling activities on refuges (and other federal lands) comes the need for increased law enforcement effort.
4. Public is often unaware of recreational fishing opportunities on NWRS lands, and at NFH facilities.

On Department of Defense (DoD)Lands

1. Access to fishable waters is often restricted for safety and/or security reasons.
2. Public is often unaware of recreational fishing opportunities on DoD lands.
3. Resource management priorities/agendas of DoD personnel sometimes differ from priorities of the Service.
4. Prior land use practices on some DoD can lead to compromised fish community health.

Tactics (the following tactics apply to all of the foregoing Challenges and Opportunities)

Tactic A. Provide increased expertise and assistance to help develop fish and other aquatic resource conservation elements in Region 5 Refuge Comprehensive Conservation Plans (CCP's). Assign Fisheries Program point-of-contact to work with Regional CCP planning teams as needed for specific fisheries-related input.

Tactic B. Provide technical guidance to refuge managers and biologists on the potential impacts of recreational fishing activities (stocking and access) on native aquatic species found on refuge lands.

Tactic C. Work with NWRS in Region 5 to identify and implement ways to increase recreational fishing use on Refuges, where compatible, through actions such as creating additional access, new habitat, and promotion and outreach.

Tactic D. Provide technical assistance to NWRS's in support of the National Refuge System "Take Me Fishing on a National Wildlife Refuge" initiative.

Tactic E. Through outreach and education, promote ethical recreational fishing practices that best mix recreational resource use with native species conservation.

Tactic F. Conduct inventories of recreational fishing opportunities currently or potentially available on refuge, hatchery, and DoD lands. Identify locations that could potentially hold self-sustaining fish communities year-round.

Tactic G. Involve refuges, hatcheries, and DoD facilities in national fishing events (e.g. National Fishing and Boating Week)

3.2 Provide support to States, Tribes, and other partners to identify and meet shared or complementary recreational fishing and aquatic education and outreach objectives.

Fish and Wildlife Management

- a. By September 30, 2008, fulfill 95% of requests for technical assistance to States, Tribes, and other partners.

Challenges and Opportunities

1. The development of recreational fishing opportunities is often given a lower priority than activities based on day-to-day maintenance and operations of NFH facilities.
2. Recreational fishing priorities often differ among Service programs, agencies and other partners, and can sometimes lead to conflict between management plans.
3. Units defined as “recreational angler days” are often difficult to accurately measure.

Tactics (the following tactics apply to all of the foregoing Challenges and Opportunities)

Tactic A. During regular meetings with other Service programs (especially Refuges), States, Tribes, and other partners, work to identify opportunities for partnership on projects to enhance recreational fishing opportunities.

Tactic B. Increase collaboration with States and Tribes to raise and stock fish for recreational purposes.

3.3 Recognize and promote the value and importance of recreational fishery objectives in implementation of other Service responsibilities.

National Fish Hatchery System

- a. By September 30, 2008, serve 130,000 visitors at NFHS facilities.

Challenges and Opportunities

1. Current outreach and education initiatives often lack a consistent component emphasizing the role of the Fisheries Program in enhancing and promoting recreational angling opportunities for stakeholders, and the value of recreational fishing in general.

Tactics

Tactic A. When possible, relate current and planned fish hatchery activities to enhanced recreational fishing opportunities through public outreach and education, and involve recreational fishing groups (angling clubs, etc) in hatchery activities.

Tactic B. Initiate and involve "friends groups" in recreational fishing outreach and education opportunities, and provide them with a message consistent throughout the regional fisheries program.

Tactic C. Promote recreational fishing theme with regional significance, and including species of local/regional interest.

4. Cooperation with Native Americans

Goal: Assistance is provided to Tribes that results in the management, protection, and conservation of their treaty-reserved or statutorily defined trust natural resources which helps Tribes develop their own capabilities.

Objectives

4.1 Provide technical assistance to Tribes.

Fish and Wildlife Management

- a. By September 30, 2008, fulfill 100 percent of requests for technical assistance on Tribal lands.
- b. By September 30, 2008, annually complete 1 training session.
- c. By September 30, 2008, develop or modify 1 cooperative or Intergovernmental Personnel Act agreement.

4.2 Provide fish for Tribal resource management.

4.3 Recognize and promote the Service's distinct obligations toward Tribes within the Fisheries Program.

Fish and Wildlife Management

- a. By September 30, 2008, annually complete 1 Tribal consultation.

Challenges and Opportunities (the following Challenges and Opportunities apply to all of the foregoing objectives)

1. The Regional Native American Policy has never been fully implemented. As a result, some credibility with the Tribes has been lost. In addition, resource issues of mutual concern would benefit from full implementation of the Policy.

Tactic A. Implement the Regional Native American Policy Implementation Plan.

Convene biennial meetings between the Northeast Region Tribal working group and Tribes to identify Tribal resource needs and review ongoing activities and implementation of the Plan.

Tactic B. Identify Tribal resource needs in the context of the Tribes' resource objectives, the Fisheries Strategic Vision for the Future, and the Federal Indian Trust responsibility.

Tactic C. Provide a Service liaison for each Tribe to maintain regular contact with Tribal leaders, including meeting in person with them at least annually. Meet with each Tribe individually to discuss cooperative resource programs and identify unique needs.

2. There is an opportunity to establish and support cooperative and Tribal fishing programs.

Tactic A. Enhance recreational fishing opportunities on Tribal land. Assist Tribes in preparing management plans for tribal stocking.

Tactic B. Increase efforts to educate Service staff, especially those dealing with Tribes, as to the often different, and sometimes unique, issues, needs, and perspectives of Native American tribes with respect to fisheries restoration and management, and as to the sometimes complex administrative and on-the-ground obligations mandated or expected under the Service's trust responsibility to Federally-recognized tribes.

Tactic C. Establish or update all MOAs with the Tribes in a Statement of Partnership type agreement in order to establish cooperative programs. A needs assessment should be performed up front to determine the needs of the tribal communities. This could be achieved through community collaboration with the tribal leader(s) as the primary contact.

Tactic D. Act as liaison between the Tribes and the States where needed to support Tribal interests.

Tactic E. Market programs to attract support, such as highlighting current tribal partnerships-- internally through posters, briefing papers, and program summaries; externally through public meetings, papers, and the media.

Tactic F. Work to make sure that the appropriate fiscal mechanisms exist to allow the transfer of funds, the contribution of work, the sharing of equipment, etc. for a list of pre-determined activities on State and Tribal waters/lands. Make sure that a watershed

perspective is used that allows for work off of government-owned lands via MOU, MOA, etc.

3. Tribes need technical assistance and training to compete for funding from the Service and other sources.

Tactic A. Identify and prioritize technical assistance needs of the tribes. Develop training programs for tribes through such avenues as NCTC and the internet.

5. Leadership in Science and Technology

Goal: Science developed and used by Service employees for aquatic resource restoration and management is state-of-the-art, scientifically sound and legally defensible, and technological advances in fisheries science developed by Service employees are available to partners.

Objectives

5.1 Utilize appropriate scientific and technologic tools in formulating and executing fishery management plans and policies.

5.2 Develop and share applied aquatic scientific and technologic tools with partners.

National Fish Hatchery System

- a. By September 30, 2008, implement 62 percent of applied science and technology tasks as prescribed by Recovery Plans.
- b. By September 30, 2008, implement 71 percent of applied science and technology tasks as prescribed by Fishery Management Plans.
- c. By September 30, 2008, develop 3 new techniques and culture technology tools.
- d. By September 30, 2008, share 8 new applied aquatic scientific and technologic tools with partners

Challenges and Opportunities (the following Challenges and Opportunities apply to all of the foregoing Objectives)

1. Widely differing resource issues throughout the Region (e.g., Atlantic salmon in the north, freshwater mussels in the south) mandate a need for increased communication within the Fisheries Program (Fish Technology Centers, Hatcheries, and Fishery Resources Offices) about the latest scientific studies and tools available to address resource issues.

Tactic A. Conduct an annual Project Leader/Biologist meeting which focuses on resource problems and scientific advances and techniques (as opposed to the administrative focus currently in place for PL meetings). Each station would be expected

to give at least one presentation on an issue confronting their office, and their approach for addressing the issue, with appropriate time for feedback by the audience. Key partners could be invited to this meeting. Coordination and collaboration potential would also be discussed at these meetings.

2. Coordination of research and technology development priorities and responsibilities between the Fisheries Program, other Service programs, and external partners needs to be improved.

Tactic A. The Program will facilitate bi-annual science coordination workshops in Region 5 (as per Region 1 model, currently implemented) with States, Tribes, NGOs, other Service programs and other Federal agencies, as appropriate, to identify and resolve aquatic resource management problems, identify research priorities and responsibilities, explore new management opportunities, maintain productive working relationships, communicate scientifically valid research finding, and share scientific and technological tools. Conduct surveys to gauge partner satisfaction with annual workshop.

3. There is no region-wide requirement to demonstrate that the highest scientific standards are adhered to and that quality control is being conducted.

Tactic A. Fisheries field stations will expand and improve Quality

Assurance/Quality Control Guidelines for reporting requirements (including methodologies and peer review practices for proposals, study plans, papers, etc.). A standardized review process and format for technical reports produced by Region 5 Fisheries stations will be instituted based on the Region 7 Fisheries Program example. These QA/QC guidelines and reporting requirements will be developed and instituted before FY2005.

4. The Program does not have an established and effective means of outreach with partners and the public.

Tactic A. The Regional Office will secure the dedicated services of an outreach professional. The incumbent will be responsible for visiting Fisheries stations and creating and maintaining current outreach documents for each station, coordinating and implementing media releases, and providing guidance on outreach material formatting and distribution. The outreach biologist will be the primary facilitator for advocating the fisheries program to the public and partners.

Tactic B. The Program and individual stations will maintain a website aimed at providing relevant science and technology updates, published reports, technical information briefs, and overviews of ongoing programs for internal and external partners.

Tactic C. Field stations will establish “Friends” groups to integrate the public into station goals and operations and educate them about the Service mission.

5. Lack of training degrades ability to develop effective scientific and technologic tools. Training is viewed as low priority.

Tactic A. Standard, mandatory training requirements and schedules will be developed and implemented for all levels of Fisheries staff. This training will include the basics in fish culture, aquatic ecology, fish health, genetics, survey techniques, etc., and will be targeted for the most appropriate individuals at each station. Many of the classes already exist at National Conservation Training Center (NCTC), and the Fisheries Program will work with NCTC to develop crucial components which are currently unavailable. Suitable instructors, within and without the Service, will be identified and encouraged to serve as instructors at NCTC.

6. Sampling needs for the Wild Fish Health Survey exceed Fish Health Center resources.

Tactic A. Increased coordination and cooperation between the Fish Health Unit and Region 5 Fisheries Resource Offices is needed, such that FRO staff could collect Wild Fish Health Survey (WFHS) samples with little extra effort during the course of their ongoing field sampling duties. This initiative, incorporating FRO staff into the routine WFHS sampling scheme, would greatly increase the coverage and efficiency of the program, at little extra cost. The rationale, protocols, and target systems for this cooperative effort would be addressed annually at the PL/Biologist meeting described above in the first tactic addressing the communication problem.

7. The Program has trouble recruiting highly trained technical specialists due to the increasing practice of entry- level hires at lower GS grades. The dense population centers in the Northeast Region offer numerous university, private, and agency options which compete with Service hiring.

Tactic A. A strong senior science staff will be developed and maintained at complexed stations around the Region in order to meet internal and external applied science and technology needs. Fish Technology Centers and Fish Health Centers will be encouraged and provided the means to hire established technical experts, and to establish research grade positions.

6. Aquatic Habitat Conservation and Management

Goal: America's streams, lakes, estuaries, and wetlands are functional ecosystems that support self-sustaining communities of fish and other aquatic resources.

Objectives

6.1 Facilitate management of aquatic habitats on national and regional scales.

Fish and Wildlife Management

a. By September 30, 2008, enhance or restore 325 upland acres, 625 wetland acres, 100 riparian miles, and 100 stream miles of habitat to achieve habitat conditions consistent with management plans.

Challenges and Opportunities

1. Achieving restoration and enhancement of aquatic and riparian habitats consistent with management plans is impeded by:

- Ongoing habitat degradation. Urbanization, industrialization, poor or unregulated forestry and agricultural practices degrade aquatic habitats and adversely impact health and survival of aquatic species; smokestack and vehicle emissions cause acidic deposition in the Northeast which destroys forests and impairs aquatic habitats.
- Non-point source pollution. Non-point source pollution is an additional factor leading to the degradation of aquatic habitat, is difficult to quantify and control.
- Jeopardized instream flows. The quantity and quality of available freshwater needed to support healthy aquatic habitats is jeopardized by competing water uses, and lack of understanding of groundwater, surface water, and water uses.
- Invasive species. Invasive species alter riparian and aquatic habitat and jeopardize ecosystem balance.
- Underutilization of federal hatcheries. NFH in the Northeast could contribute more to habitat restoration (e.g. SAV production).

2. Completion of management plans for watersheds supporting federally listed, declining, or depleted populations of native aquatic species under DOI authority or influence is impeded by:

- Lack of formal agreements with states, local governments, watershed associations and other partners which address watershed problems systematically and holistically.

- Lack of priorities to help focus resources on most critical watersheds.
- 3.** Completing baseline and current habitat condition surveys for watersheds supporting federally listed, declining, or depleted populations of native aquatic species under DOI authority or influence is impeded by:
- Lack of consensus on common definitions of “watershed” and “habitat condition”. These must be consistent throughout the Region and acceptable to primary partners.
 - Lack of data available in GIS format, and a lack of GIS support services within FR.
 - There continues to be a lack of emphasis placed on the effects of chemical contaminants (versus physical habitat degradation) as it relates to aquatic resources.

Tactics (the following Tactics apply to all three of the Challenges and Opportunities)

Tactic A. No single program element within the Service has the ability to address all habitat and environmental contaminant problems independently. Partnerships with other Service programs, other federal agencies, states, tribes, local governments, land trusts, civic organizations, and non-governmental organizations (NGO) will be developed and formalized. Cooperative agreements will be formulated with principal internal and external partners to develop watershed-based habitat restoration/enhancement plans.

Tactic B. Work with partners to develop management plans or review existing plans that (1) define habitat management units and desirable condition factors; (2) identify aquatic habitat restoration needs; (3) set priorities; and (4) secure adequate GIS support. Result will be ecosystem or watershed-based habitat management teams with ES, FR and partner participation.

Tactic C. Work with United States Geological Survey (USGS) and river basin commissions to acquire information on surface and groundwater and monitor water withdrawals and uses. Utilize data linking groundwater levels, water withdrawals and surface water flows to ensure that minimum stream flow values are available to support essential aquatic habitat needs. When appropriate, utilize the Interim Regional Policy for New England Stream Flow Recommendations as model guidance for addressing water resource management issues. Actions will lead to a definition of high priority watersheds and aquatic impact areas related to water management, a watershed-based water needs and availability assessment, and, development of Regional standards for aquatic base flows.

Tactic D. Work with partners, including aquatic nuisance species taskforces and regional panels to develop and adopt criteria to guide management actions dealing with aquatic nuisance species. Actions will result in a Northeast Region synthesis document

identifying highest priority ANS species, locations, control or eradication techniques, roles and responsibilities, and timetables for all Service programs.

Tactic E. Develop Region 5 issue paper which identifies opportunities to expand the role of hatcheries in restoration and recovery of aquatic species which may include federally listed threatened and endangered species, or other declining species culture and refugia, SAV seed production, and experimental nutrient management techniques to ensure that hatchery effluents meet ever more stringent NPDES requirements. A decision document will be drafted, containing an implementation schedule, approved by the RD, which expands role of NFHs in Region 5 beyond traditional fish culture to meet stakeholder expectations and address priority aquatic restoration needs.

Tactic F. Work with other Service programs, other federal agencies, states, tribes and NGO's to define the benefits of a National Aquatic Habitat Plan (NAHP), identify Region-specific elements of such a Plan, and identify the appropriate R-5 Service field station role in its development and implementation. Assess whether existing local river basin or National Estuary Program plans or ecosystem programs may serve as examples or building blocks for a NAHP that includes habitat condition assessment, management planning, and habitat restoration or enhancement. A draft scoping document will be created for a Northeast Region Aquatic Habitat Plan coordinated with the aquatic components of other Service programs.

6.2 Expand the use of Fisheries Program expertise to avoid, minimize or mitigate impacts of habitat alteration on fish and other aquatic species.

Fish and Wildlife Management

- a. By September 30, 2008, annually open 125 acres and 230 miles of aquatic habitat to fish passage.

Challenges and Opportunities

1. Freshwater and saltwater wetlands are being destroyed by a number of factors, including invasive species, sedimentation, and anthropogenic factors, such as development and poor agricultural practices.
2. Poorly regulated industrial and domestic discharges of pollutants are adversely affecting water quality and contributing contaminants to aquatic habitats and resources.
3. Non-point source pollution continues to contribute to the degradation of aquatic habitat, is difficult to quantify and control.

4. Large-scale water withdrawals are impinging and entraining eggs and larvae of numerous fish species.
5. Heated discharges from power plants and other industry kill early life stages of valuable aquatic resources.
6. Dams, weirs, culverts and other obstructions block migration of anadromous and catadromous fish species and interfere with natural stream processes affecting resident fish populations. Many hydroelectric and other water development projects lack effective upstream/downstream fish passage and may delay, injure or otherwise cause high losses of adult and juvenile migratory fish during passage.

Tactics (the following Tactics apply to all six Challenges and Opportunities)

Tactic A. Fisheries (FR) and ES will work cooperatively with partners to restore and/or enhance wetlands which have been impacted by development and poor agricultural practices. Actions will result in increased cooperation with established Partners for Fish and Wildlife and Coastal Programs which includes FR field stations as appropriate.

Tactic B. Enhance existing and develop new Service habitat conservation programs and activities which specifically focus on recovery of priority aquatic habitats.

Tactic C. Work closely with ES specialists as well as state, federal and tribal partners to review permit applications, monitor and, where possible, prevent or reduce contaminants, nutrients and toxic waste discharges from industrial and domestic sources. Work with ES to review and define roles and responsibilities associated with Service review of permit applications involving environmental contaminants. Actions will lead to development of routine and shared responsibilities among Service programs to assure permit compliance and reduce impacts of point source discharges on aquatic habitats and resources.

Tactic D. Work closely with ES and other partners to assure that water intakes are adequately screened and velocities are reduced to avoid impingement and entrainment of fish eggs and larvae. Also, assure that industrial heated discharges do not exceed permitted delta-T requirements to avoid thermal impacts to trust resources. Actions will lead to lessened impingement, entrainment and thermal impacts on trust aquatic resources from industrial water users.

Tactic E. FR and ES work cooperatively with partners to address issues and threats related to hydropower re-licensing, and seek appropriate mitigation, including provisions for safe, timely, and effective upstream and downstream fish passage, where needed, to

achieve fishery management goals and objectives. Prescriptions for fish passage facilities at new or relicensed hydro projects will call for upstream and downstream fish passage rates of 90 percent plus for migratory fishes.

Tactic F. For non-hydroelectric dams, fisheries fish passage program will continue to work with other programs to continue to identify all barriers, set priorities, and develop a schedule to provide access for migratory fish passage - with highest priority placed on projects with greatest net impact and, when possible, complete removal of blockages. Actions will result in creation of a dam inventory, priority list and schedule for fishway or removal.

Tactic G. Work closely with ES to construct effective fish passage and, where possible, remove unneeded dams through regulatory and non-regulatory methods. Develop and enhance partnerships with states and NGO's to expand fish passage/dam removal teams (New England and Mid-Atlantic). Provide Service engineering assistance. Actions will potentially reopen thousands of tributary miles to migratory fish and restore stream functions.

Tactic H. FR will assist ES in permit and project reviews as requested, and provide assistance in identifying and seeking appropriate mitigation.

6.3 Increase the quantity and improve the quality of aquatic and riparian habitat on Service lands.

National Fish Hatchery System

a. By September 30, 2008, 100% of NFHS stations will meet environmental requirements for effluent as defined by Federal, Tribal, and State law.

Challenges and Opportunities

1. Refuge planning (CCP's) for new refuges and expansion of existing refuges generally lacks comprehensive assessment of aquatic habitats which may be valuable to resident and migratory fish.
2. Management of riparian areas on refuges does not typically address aquatic habitat and fishery needs.
3. Fisheries Resources program personnel do not participate in the Land Acquisition Priority System (LAPS) process or evaluate aquatic habitat needs of proposed new acquisitions for the NWRS.

4. Improperly treated effluent from NFH operations may result in degradation of aquatic habitats and possible introduction of non-native species.

Tactics (the following Tactics apply to all four Challenges and Opportunities):

Tactic A. Implement cross-program management with NWRS and other partners, to facilitate and coordinate refuge development, expansion projects, and CCP development to assure that aquatic resources and habitats are routinely and fully addressed. All refuge CCPs will have aquatic resources and habitat inventories and management components which maximize opportunities for enhancement of fishery values, providing these do not compromise the primary mission of that refuge.

Tactic B. Include FR in LAPS project selection and aquatic property management on and off Service lands. Also, identify new opportunities for land and water protection proposals benefitting fish and other aquatic resources with special emphasis on Fish and Wildlife Refuges. Actions will lead to an increased opportunity for FR to impact land acquisition program and to further include aquatic and fishery resources in development of new refuges or expansions.

Tactic C. Manage water discharges and culture practices at all NFHs to control spread of disease and/or introduction of undesirable species. Actions will be identified and prioritized in station biosecurity plans, developed by project leaders and approved by ARD-FR. Biosecurity plans will be in place at all NFHs and will be functional by 2009.

Tactic D. Implement improved pollution abatement programs and meet all discharge permit standards at NFHs in Region 5, leading to full compliance with State/Federal/Tribal effluent discharge standards.

7. Workforce Management

Goal: Maintain and support an adequately-sized, strategically positioned workforce with state-of-the-art training, equipment, and technologies in their career fields.

Objectives:

7.1 Staff Fisheries Program field stations to effectively meet Service goals and objectives in fish and other aquatic resource conservation, at adequate levels and in strategically aligned and structured positions.

7.2 Provide employees with opportunities to maintain competencies in the expanding knowledge and technologies needed to improve opportunities for professional achievement, advancement and recognition.

7.3 Provide employees with access to facilities and equipment needed to effectively, efficiently and safely perform their jobs.

National Fish Hatchery System

- a. By September 30, 2008, 100 percent of field stations will have a calculated Facility Condition Index (based on completed Condition Assessments).

Challenges and Opportunities (the following Challenges and Opportunities apply to all three objectives):

- 1.** There is a need for a highly competent, diverse workforce. Outreach, advocacy and targeted recruitment techniques are key to achieving a desired workforce, however, some recruitment and retention systems are not being used to their fullest potential.
- 2.** Managers have identified the need for more clearly defined career paths and advancement opportunities, especially for wage grade and lower grade staff.
- 3.** Managers are concerned about the loss of scientific and technical knowledge due to staff transfers and limited hiring. For example, many future quality staff levels and many current and future quantity staff levels were rated below acceptable by managers in the Service Workforce Planning Study (2002). Watershed and aquatic habitat assessment, and program analysis had the lowest levels overall.
- 4.** Managers are concerned about the aged Region 5 Fisheries Program facilities and

equipment requiring repair, renovation, or replacement

Tactics (the following Tactics apply to all four Challenges and Opportunities)

*Note: underlined words and phrases are defined in the glossary at the end of this section.

Tactic A. Pilot the design of a workforce infrastructure for a portion of Fisheries, including:

- Performing position review and job analysis for a functional grouping of positions
- Developing a strategically-aligned position structure
- Validating staffing and workload measurement models.
- Establishing training and development profiles.
- Marketing the need for and success of these efforts.

Tactic B. Once the design is completed, implement the new infrastructure identified from the initial functional grouping position review and job analysis, including:

- Instituting a change management effort directed at field managers and Regional staff.
- Evaluating the position review/job analysis and implementation process so that improvements can be made for the next functional grouping(s) to be implemented (then repeat Tactic A for that grouping).
- Associating the new position structure with performance outputs and measures and with FONS and budget requests.

Tactic C. Use the infrastructure implemented to conduct an ongoing permanent workforce planning process, including:

- Identifying existing and upcoming management meetings where workforce planning can be discussed.
- Participating in training efforts.
- Participating in efforts to identify new or different functional groupings and update/associate relevant competencies with those groupings.
- Providing agenda time at project leader/similar meetings for presentations on workforce planning.
- Providing competency assessments for the Fisheries workforce.
- Conducting gap analysis for the Fisheries program.
- Helping to identify solutions to fill the gaps found.
- Providing information to the field on suggested solutions.
- Querying managers on effectiveness of existing solutions and new proposals.
- Evaluating effectiveness of new infrastructure and making indicated changes.

Tactic D. Use the infrastructure implemented to fully utilize the Service Conservation Applicant Referral Evaluation System to facilitate hiring well-qualified Fisheries staff by:

- Beginning to identify questions and associate them with Fisheries workforce infrastructure based on positions and competencies.
- Hiring individuals based on prioritization of required competencies and filling previously-identified competency gaps.

Glossary for this section:

Workforce Infrastructure: a collection of standardized position descriptions with associated competencies that maximize the use of career ladders. Position descriptions are combined and connected to form clearly defined career paths within an organization and are closely associated with and linked to training and development profiles that delineate what competencies are required at each grade level. Staffing models, identified and validated by workload indicators, are used to determine the number and type of positions needed throughout the function/organization studied.

Position review and job analysis: a method to identify and quantify duties, workload, and skills for work actually performed within an identified functional grouping and describe desired duties and future skills and competencies needed, particularly to achieve strategic performance goals and objectives. That information is used to associate competencies and duties into a collection of Position Descriptions and to associate workload information into staffing models.

Functional grouping: a grouping of positions with similar duties regardless of occupational series. For example, a functional grouping of “aquatic systems operations” could include occupations such as engineering equipment operator, maintenance mechanic, animal caretaker, facilities mechanic, laborers, and motor vehicle operator.

Strategically-aligned position structure: a functional grouping of positions, designed using the position review and job analysis, specifically identified and aligned with performance goals and outcomes identified under the Government Performance Results Act process. This information can then be included in strategic planning documents and used, for example, to definitively show how critical staffing shortages or competency gaps affect achievement of performance goals.

Training and development profile: a document that describes the competencies associated with each position in a workforce infrastructure, the level of proficiency needed for the competency in the position, and ways to achieve the desired proficiency levels through training, education and developmental activities.

Ongoing permanent workforce planning process: a biennial method to systematically and regularly evaluate the current workforce, compare it to future workforce needs, and make and implement plans to bridge any gaps between the two.

Change management effort: efforts to manage responses to any changes in employee and position management, hiring and promotion through communication, marketing, support, and leadership.

Competency(ies): a collection of duties defined by the specific knowledge, skill or ability needed by an employee in a position, functional grouping, or organization. An example of a competency may be, “population assessment” which consists of tasks such as stock assessment, population dynamics, modeling, and data analysis and

management.

Competency assessment: a survey tool used to measure current and future knowledge and skill levels associated with a program's workforce which are critical to the successful achievement of mission goals. Survey questions require a numerical response (1-Very Low to 5-Very High) to rate the proficiency levels of competencies possessed by the workforce. The results of the survey identify workforce gaps between the current competency levels of the workforce and the ones needed to meet the future mission. Program leaders use a competency assessment as a method of analyzing workforce gaps and to develop appropriate solutions to fill the gaps.

Gap analysis: a method used in an ongoing workforce planning process to determine the difference between the current workforce and the workforce needed for the future.

Solutions: in the context of an ongoing workforce planning process, solutions are the activities, actions, or initiatives needed to close the gap between workforce we have and the workforce we will need in the future. Most often solutions are either human resources initiatives such as a new recruiting program or specific use of a retention bonus or training initiatives calling for additional courses or new development programs.

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Glossary of Terms and Definitions

Agreement

Any document approved by two or more parties that identifies their roles and responsibilities in achieving mutual objectives (e.g. Memorandum of Agreement, Memorandum of Understanding, Cooperative Agreement, Grant, Contract) (FWS Native American Policy).

Applied Science

Science used in actual practice or used to work out actual problems (Webster's Unabridged Dictionary, 1992).

Approved

Agreed upon and sanctioned by the parties involved.

Aquatic Nuisance Species

Introduced, exotic, or transplanted species, including viruses, bacteria, protozoans, and parasites, that threaten the diversity or abundance of native species or the ecological stability of infested waters, or commercial, agricultural, aquacultural or recreational activities dependent on those waters (Fisheries Program Vision for the Future).

Asset

An individual item or group of similar items of real property valued at \$5,000 or more that is/are documented in the Real Property Inventory, or individual item of equipment that is documented in the Personal Property Inventory.

Baseline

Any historic or collected data that is used as a control or “benchmark” to make comparisons with expected or actual conditions.

Candidate Species

Any species being considered by the Secretary for listing as an endangered or a threatened species, but not yet the subject of a proposed rule (50 C.F.R. 424.02).

Challenges/Opportunities

Pertaining to Regional Fisheries Program strategic plans, refers to explicit obstacles (challenges) that stand in the path of accomplishing objectives, and favorable circumstances (opportunities) for progress or advancement. “Challenges” is analogous to the planning term “problems” in Meffe et al. (2002).

Condition Assessment

Periodic inspection by qualified personnel to fully determine and document the existence and condition of an asset or item of equipment and identify maintenance needs and associated repair costs, if any.

Conservation

Management, restoration, and protection of self-sustaining and imperiled species populations (Fisheries Program Vision for the Future).

Cooperative Agreements

See Grant.

Depleted Population

A population whose abundance or other appropriate measure is below its management goals, or, in the absence of management goals, a population considered to be below historical levels. Does not include populations listed as candidate, threatened, or endangered under the *Endangered Species Act*.

DOI Authority or Influence

Owned or regulated by the Department of the Interior, or where the Department has a partnership role, or where DOI has jurisdiction because of listed species, i.e. critical habitat.

Ecosystem

A geographic area including all the living organisms (people, plants, animals, and microorganisms), their physical surroundings (such as soil, water, and air), and the natural cycles that sustain them (<http://ecosystems.fws.gov/>). For purposes of the Fisheries Program, ecosystems are delineated along the 53 FWS ecosystem units.

Effluent

Water and associated suspended and dissolved materials included within the discharge stream (point-source or otherwise) from a facility using water (e.g., aquaculture facility/NFHS cultural station).

Endangered Species

A species listed under the *Endangered Species Act* as being in danger of extinction throughout all or a significant portion of its range (50 C.F.R. 424.02).

Enhancement (Population)

Stocking fish or other aquatic species to augment existing native populations with additional individuals in order to reach self-sustaining population levels, appropriate genetic diversity, or improve a fishery. Population-specific criteria for achievement of enhancement are defined in a plan or agreement.

Enhancement (Habitat)

The manipulation of the physical, chemical, or biological characteristics of a habitat site (undisturbed or degraded) to heighten, intensify, or improve specific function(s) or to change the growth stage or composition of the vegetation present. Enhancement is undertaken for a purpose such as water quality improvement, flood water retention or wildlife habitat. Enhancement results in a change in habitat function(s), but does not result in a gain in habitat size (e.g., length, area, or volume). This term includes activities commonly associated with the terms, improvement, enhancement, management, manipulation, or directed alteration. Site-specific criteria for achievement of enhancement are defined in a plan or agreement.

Equipment

Moveable items used in day-to-day activities for the purpose of fulfilling the Service mission. These items have an acquisition cost of \$5,000 or more or are sensitive property items that include automobiles, trucks, heavy machinery, boats, all-terrain vehicles, weapons, and shop/laboratory/office appliances including laptop computers. These items are cataloged in the Personal Property Inventory database.

EPA Approved Water Quality Standards

The Water Quality Standards Regulation (40 CFR 131) describes State requirements and procedures for developing, reviewing, revising, and adopting water quality standards (WAS), and EPA requirements and procedure for reviewing, approving, disapproving, and promulgating water quality standards as authorized by section 303 (c) of the *Clean Water Act*.

Facility

An individual item or group of *related* items of real property valued at \$5,000 or more and documented in the Real Property Inventory, and is not used to refer to a field station, which is an aggregate of “facilities”.

Facility Condition Index (FCI)

The FCI is the ratio of accumulated deferred maintenance to the current replacement value of a property item. A ratio of less than 5% indicates a “good” condition, a ratio from 5% to 10% indicates “fair” condition, and a ratio greater than 10% indicates “poor” condition. FCI is an indicator of the depleted value of a bureau’s constructed assets. In other words, the FCI illustrates the percentage of its assets value that a bureau would have to spend to eliminate the deferred maintenance backlog.

Fish Access

Unobstructed pathway allowing movement in and out of habitats previously unavailable or limited due to a barrier, for use in completing life history requirements.

Fish Screen

A manufactured structure or device placed within a stream, diversion or other water movement facility for the purpose of decreasing fish mortality by decreasing entrainment of juvenile and adult fish into a water supply system.

Fish Passage Barrier

A manmade device or influence that prevents or inhibits fish or other aquatic species from reaching historic habitats. Barrier includes, but is not restricted to, dams, culverts, inefficient fishways, water diversions, ineffective screens, and inadequate flows (Service Manual, 710 FW 1).

Fishery Management Plan

A planning document for the conservation of one or more fisheries. See also 'Management Plan.'

FWMA (Fish and Wildlife Management Assistance)

A programmatic organizational branch in the Washington Office that administers funds from 1331 (Anadromous Fish Management) and most of 1332 (Fish and Wildlife Assistance) of the Fish and Wildlife Service annual budget. These funds support activities at 64 fish and wildlife management assistance offices (also sometimes known as Fishery Resources Offices, Fish and Wildlife Resource Offices, etc.) throughout the nation. Most of these activities are part of the Fisheries program, though FWMA also includes wildlife management assistance on tribal lands.

Goal

A general description of what the group seeks to accomplish and for whom (Meffe et al. 2002).

GPRA

The Government Performance and Results Act of 1993, which requires Federal agencies to establish standards measuring their performance and effectiveness; and to develop strategic plans describing overall goals and objectives, annual performance plans with quantifiable measures of their progress, and reports describing their success in meeting standards and measures.

Grants

An award of financial assistance, including cooperative agreements, in the form of money, or property in lieu of money, by the Federal Government to an eligible grantee. The term does not include technical assistance which provides services instead of money, or other assistance in the form of revenue sharing, loans, loan guarantees, interest subsidies, insurance, or direct appropriations. Also, the term does not include assistance, such as a fellowship or other lump sum award, which the grantee is not required to account for. Grantee means the government (or other recipient) to which a grant is awarded and which is accountable for the use of the funds provided. The grantee is the entire legal entity even if only a particular component of the entity is designated in the grant award document (*adapted from* 43CFR12.43 revised October 2002). A grant or cooperative agreement shall be used only when the principal purpose of a transaction is

to accomplish a public purpose of support or stimulation authorized by Federal statute. The statutory criterion for choosing between grants and cooperative agreements is that for the latter (cooperative agreements), “substantial involvement is expected between the executive agency and the State, local government, or other recipient when carrying out the activity contemplated in the agreement.” (43CFR12.911 revised October 2002).

Habitat Assessment

Any one of many standard surveys to evaluate the chemical, physical, and/or biological characteristics of a specified area of land and/or water as habitat for a population, species, or community. Examples include baseline inventories, evaluations of management actions, and monitoring of changes over time.

Hatchery Propagation

Includes natural or artificial matings, fertilization of sex cells, transfer of embryos, development of offspring, and grow out of individuals of a species in a controlled environment.

Historic Properties/Sites and Collections

Historic properties/sites are those that are listed on the National Historic Registry. Historic collections pertain to historic artifacts or documents that should be preserved through appropriate protocol.

Imperiled Species

Any species listed as threatened or endangered under the authority of the *Endangered Species Act*, considered a candidate for listing, or its population is in a steep decline (Fisheries Program Vision for the Future).

Indirect Infrastructure

NFHS Real Property Inventory assets, other than mission critical assets, that support carrying out the mission of the field station (e.g., office buildings, storage buildings, residences, roads, fences, kiosks, signs, above-ground fuel tanks).

Information Transfers Supported

Activities conducted to provide technical information, expertise and programmatic information to partners and stakeholders to facilitate the prevention, early detection, rapid response, control and management, and education and outreach of aquatic invasive species. Includes technical assistance to other Service programs, Refuges, other Federal agencies and their lands, States, local governments, Tribes, private landowners, industries, non-governmental institutions, academic institutions and international partners. It does not include specific public awareness campaigns and State ANS management plans, or formal partnership opportunities such as the Regional Panels of the ANSTF.

In-stream

The area within the confined width and depth of a flowing watercourse at or below bank-full stage.

Intergovernmental Personnel Act

Permits the temporary assignment of personnel between Federal agencies, State and local governments, federally recognized tribes, and other eligible organizations, in order to facilitate Federal-State-local government cooperation or to develop programs of mutual concern through the short-term, temporary assignment of skilled personnel (5 U.S.C. 3371-3376).

Interjurisdictional Fisheries

Freshwater, coastal, or marine fish populations managed by two or more states, nations, or tribal governments because of their geographic distribution or migratory patterns (Fisheries Program Vision for the Future).

Introduction

The intentional or unintentional escape, release, dissemination, or placement of a species into an ecosystem as a result of human activity (Executive Order 13112).

Invasive

Any non-native species whose introduction does or is likely to cause economic or environmental harm or harm to human health (Fisheries Program Vision for the Future).

Leverage

To increase means of accomplishing a purpose by providing additional resources. Can include, but is not limited to, providing funds, equipment, or personnel from an outside source.

Listed Species

Any species of fish, wildlife, or plant which has been determined to be endangered or threatened under section 4 of the *Endangered Species Act* (50 C.F.R. 402.02).

Management Plan

A broadly-used term to describe a planning document for the manipulation of natural resources in order to achieve societal goals. Can be specific to a species, population, community, watershed, ecosystem, or other location, or for activities including recovery, restoration, control, or use. Generally describes the historic and current resource characteristics or functions and outlines goals and objectives to establish or maintain those characteristics or functions at a desired condition. It further describes specific actions and timetables by the participants to achieve those goals and a format to report progress towards this accomplishment.

Mitigation

Activities contributing to preserving aquatic resources and offsetting aquatic and habitat resource

loss due to water projects developed by the Federal government. Mitigation includes propagation of native species to preserve them from potential extinction as well as propagation of non-native species to fill vacant niches in severely altered habitat (e.g., reservoirs and tail waters) where native species can no longer survive or reestablish self-sustaining populations.

Native Species

Any species within historic range, the area occupied at the time of European colonization of North America (Fisheries Program Vision for the Future).

New Animal Drug Application (NADAs)

The formal application and accompanying technical data sections submitted to the Food and Drug Administration (FDA) to demonstrate that a drug (not yet approved) is safe and effective for use on animal(s) and disease(s) indicated on the label. To be approved by FDA, the technical sections must demonstrate that the drug is safe to the animal(s) indicated on the label, safe to humans who may eat the animal(s) treated with the drug (in the case of food animals), safe to the environment as a result of its being manufactured and used, and that the drug is effective in treating or preventing the conditions indicated on the label.

NFHS Stations

National Fish Hatchery System stations. Includes fish hatcheries, fish technology centers, fish health centers and historic fish hatcheries that are managed by the U.S. Fish and Wildlife Service.

Objective

A specific statement of what the group intends to accomplish, stated in ways that can be measured and monitored. Several objectives may be written to address each goal (Meffe et al. 2002).

Outreach and Education Events

A time-specific gathering of Fisheries Program staff and an audience of selected individuals, organizations, or the general public for the purpose of providing the audience with information on aquatic resource conservation, recreational fishing, and/or the functions of the U.S. Fish and Wildlife Service.

Partner

Any individual, organization, or agency working with the another to meet common objectives by contributing capital towards shared activities. "Capital" includes funds, people, equipment, land/property access, and authority.

Population

A discrete group of individuals of a single species or lesser taxon that is defined by its reproductive isolation and/or geographical distribution (e.g., management unit). Captive fish and their progeny held in captivity do not constitute a discrete population.

Population Assessment

A broad category of biological surveys conducted to determine population characteristics of a species. Examples include baseline inventories, evaluations of management actions, and monitoring of changes over time of population parameters (e.g., abundance, distribution, genetics, sex ratios, recruitment, and growth rate).

Project

A particular activity (e.g., a population assessment) or interrelated group of activities to implement a tactic and contribute towards meeting a planned objective. Interrelated activities are those components essential to completing a project from start to finish (including measuring and reporting the results of the work to stakeholders). A planned objective is one found in the strategic plan (*adapted from* Meffe et al. 2002). See Meffe et al. (2002) for more information and examples of writing a project. In FIS, each record in the FONS and Accomplishments modules should be written as a project, where results are measured and recorded on the Activities page.

Recovery

Improvement in the status of listed species to the point at which listing is no longer appropriate under the criteria set out in section 4(a)(1) of the *Endangered Species Act* (50 C.F.R. 402.02).

Recovery Plan

A planning document pursuant to the *Endangered Species Act* for the conservation and survival of Federally listed species (16 U.S.C. 1533(f)).

Recovery Plan Task

A specific recovery action, as outlined within the recovery strategy of a Recovery Plan to meet recovery goals and objectives. Recovery Plan Tasks are listed in the Implementation Schedule of Recovery Plans. This term is used in the 1990 ES Recovery Plan Guidance, however, a revised draft version of this document replaces the term “task” with “action” (change expected to be in place by 2004).

Recovery Plan Production Task

Any recovery plan task that specifies hatchery production activities as part of the recovery strategy for that species.

Recreational

An activity which provides or enhances public opportunities such as fishing, hunting, and wildlife watching.

Refugia

Isolated areas or facilities in which imperiled wild or captive produced organisms can be held in

protection, preferably for short periods of time but possibly long-term.

Research

An activity that directly or indirectly supports gathering, analyzing, and disseminating scientific information.

Restoration (Habitat)

The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded habitat. Site-specific criteria for achievement of restoration are defined in a plan or agreement. Habitat restoration is divided into re-establishment and rehabilitation.

Restoration (Population)

The process of returning the quantity and/or quality of one or more depleted or extirpated populations to some previous condition, often a baseline established to meet goals and objectives in a plan or agreement.

Riparian

A landscape position - lands contiguous to perennial or intermittent streams, channels and rivers. Riparian areas may include upland, wetland, and riparian plant communities (FWS FY 2003 Annual Performance Plan).

Riverine

Areas within the active channel of a river or stream.

Self-sustaining

Capable of maintaining itself independently (Webster's New World Dictionary, Third College Edition, s.v. "self-sustaining"; Fisheries Program Vision for the Future).

Species of Management Concern

Any species subject to management by the Department due to statutory or programmatic responsibility.

Sport Fish

Any species targeted by anglers for recreation.

Stabilized

Species in the wild whose numbers have remained relatively constant and whose threats are relatively constant. Stable does not mean secure.

Stakeholder

Any agency, group, or individual that can place a claim on the agency's attention, resources or outputs, or who sees themselves as affected by agency actions or who can affect the agency's future (Organization of Wildlife Planners; Developing Comprehensive Management Systems for Wildlife Agencies Seminar; October 23-27, 1995; Stowe, Vermont).

Subsistence

The practice of taking fish, wildlife or other wild resources for one's sustenance - for food, shelter or other personal or family needs.

Sustainable

A population whose abundance or other appropriate measure is at or above its management goals, or, in the absence of management goals, a population indicated to be healthy by the best available scientific or anecdotal evidence.

Tactic

An operational approach chosen to overcome a stated problem, also sometimes referred to as "strategy" (Crowe 1987; Meffe et al. 2002).

Task

An assigned piece of work often to be finished within a certain time (*adapted from* Merriam-Webster's Collegiate Dictionary. www.m-w.com).

Technical Assistance

Expertise, information, or other help provided by the Service upon request by a partner or stakeholder to facilitate the development, enhancement, and management of fish and wildlife resources (e.g. direct on-site support, information transfer, and baseline inventories) (*adapted from* FWS FY 2003 Annual Performance Plan and FWS Native American Policy). Record all activities (including communications) related to one issue or project as one request for technical assistance fulfilled. Technical assistance is not consultation. In the most general terms, consultation is initiated by the Service and technical assistance is initiated by a partner or stakeholder.

(New) Techniques and Culture Technology Tools

Tasks and activities associated with new (i.e. never before developed) techniques and advances in applied fisheries science and fish culture.

Threatened Species

Any species listed under the *Endangered Species Act* that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range (50 U.S.C. 1531 *et seq.*).

Tribal Consultation

A request by the Service for information or feedback from Native American governments regarding the management of fish and wildlife resources for which trust responsibilities and other fiduciary obligations are attached to the United States. Occurs when the Service initiates discussions with tribal officials regarding a pending federal action (e.g. designation of critical habitat, rule making, or listing species). Consultation could be legally mandated or could be a voluntary effort by the Service to gain tribal perspective to an issue or action. All consultations must comply with current Federal Native American policies, including Secretarial Order Nos. 3206, 3175, and Executive Order 13175. Record all communications related to one issue or action as one consultation. Consultation is not technical assistance. In the most general terms, consultation is initiated by the Service and technical assistance is initiated by a partner or stakeholder.

Tribal Trust Responsibility

The fiduciary obligations that attach to the U.S. as trustee of the assets and resources that the U.S. holds in trust for Native American governments and their members, the treaty and statutory obligations of the U.S. toward Native American governments and their members, and other legal obligations that attach to the U.S. by virtue of the special relationship between the Federal Government and Native American governments. The identification and quantification of trust assets is recognized as an ongoing and evolving process (FWS Native American Policy 1994).

Tribe

Federally recognized tribes as regarded by Federal law and formally identified by the Department of the Interior.

Upland

Land or an area of land lying above the level where water flows or where flooding occurs (FWS FY 2003 Annual Performance Plan).

Watershed

A standard eight digit USGS cataloging unit representing part or all of a surface drainage basin, a combination of drainage basins, or a distinct hydrologic feature. The USGS divides the United States into 2150 cataloging units, which are the fourth level of classification in the USGS Hydrologic Unit system. For more information, see <http://water.usgs.gov/GIS/huc.html>.
Synonym: DOI Watershed Unit.

Watershed Plan

A planning document for the restoration and/or management of any of the USGS cataloging units or other appropriate scale. Generally describes the historic and current characteristics of the watershed and outlines goals, objectives, and partner roles to maintain or re-establish its function to a state of being at, or somewhere between, its historic state and current functional state.

Wetland

Lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following three attributes: (1) at least periodically the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soils; and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year (Cowardin et al. 1979). By definition wetlands include areas meeting specific criteria included in the 1987 Corps of Engineers Wetlands Delineation Manual, as well as in the USDA-NRCS's National Food Security Act Manual (FWS FY 2003 Annual Performance Plan, <http://planning.fws.gov/Appendix.html#II>).

Wild Fish Health Survey

A formalized national partnership of Service, State and Tribal resource agencies to document the national distribution of fish pathogens, including viruses, in free-ranging fish. Its use allows for management decisions based on greater levels of science-based information and is publicly available on the web.

Literature Cited

Crowe, D.M. 1987. Comprehensive Planning for Wildlife Resources. Wyoming Game and Fish Department. 143 Pages.

Executive Order 13112. 1999. Invasive Species.

Meffe, G.K., L.A. Nielsen, R.L. Knight, and D.A. Schenborn. 2002. Ecosystem Management: Adaptive, Community-Based Conservation. Island Press.

Webster's New World Dictionary, Third College Edition. 1988. Simon and Schuster, Inc. New York, New York.

Appendix A: Program Performance Summary
Fish and Wildlife Management

Program Performance Summary - Fish and Wildlife Management

(Report percentages as numerator and denominator. Report units separately, e.g., wetland acres and upland acres.

Each measure is more clearly defined in the Regional Strategic Plan Guidelines.)

General note: In most cases, inability to predict changes in available R5 resources results in flat-line forecast of future outcomes. Forecasts are subject to change dependent upon standardization of measures within and among regions, and further clarification of how “populations” should be defined.

DOI Strategic Goal: Resource Protection					
DOI End Outcome Goal: <u>PEO.2</u> . Sustain biological communities on DOI managed and influenced lands and waters in a manner consistent with obligations regarding the allotment and use of water					
DOI End Outcome Measure	2004	2005	2006	2007	2008
<u>PEM.2.01</u> . % of species of management concern that are managed to self-sustaining levels, in cooperation with affected States and others, as defined in approved management plans	26 (6 ¹ /23)	26 (6 ¹ /23)	26 (6 ¹ /23)	26 (6 ¹ /23)	26 (6 ¹ /23)
<u>PEM.2.02</u> . % of threatened or endangered species listed a decade or more that are stabilized or improved	38 (3 ² /8)	38 (3 ² /8)	38 (3 ² /8)	38 (3 ² /8)	38 (3 ² /8)
<u>PEM.2.03</u> . % of candidate species where listing is unnecessary as a result of conservation actions or agreements	no candidates	no candidates	no candidates	no candidates	no candidates
DOI Intermediate Strategy: <u>PIO.2.1</u> . Create habitat conditions for biological communities to flourish					
DOI Intermediate Measure / FWM Performance Measure	2004	2005	2006	2007	2008
<u>PIM.2.1.03</u> . <i>Habitat Restoration</i> : Acres restored or enhanced to achieve habitat conditions consistent with management plans, program objectives, and consistent with applicable substantive and procedural requirements of State and Federal water law.					
Wetland acres restored.....					
Wetland acres enhanced.....	100	100	150	150	150
Upland acres restored.....	25	25	25	25	25
Upland acres enhanced.....	50	50	50	50	50
	15	15	15	15	15
<u>PIM.2.1.04</u> . <i>Habitat Restoration</i> : Stream / shoreline miles restored or enhanced to achieve habitat conditions consistent with management plans, program objectives, and consistent with applicable substantive and procedural requirements of State and Federal water law.					
Instream miles restored.....					
Instream miles enhanced.....					
Riparian miles restored.....	10	10	15	15	15

Riparian miles enhanced.....	10	10	10	10	10
	10	10	10	10	10
	10	10	10	10	10
<i>Habitat Restoration</i> : # of acres/miles re-opened to fish passage					
Acres.....	100	100	125	125	125
Miles.....	180	180	210	210	230
Supporting Workload/Activities/Outputs	2004	2005	2006	2007	2008
<i>Habitat Restoration</i> : # of fish passage barriers removed or bypassed	20	20	22	24	24
<i>Invasive Species</i> : Prevention: # of ballast water technology projects supported	0	0	0	0	0
<i>Invasive Species</i> : Prevention: # of risk assessments conducted	1	1	0	1	0
<i>Invasive Species</i> : Prevention: # of activities conducted to address priority pathways	7	7	9	9	10
<i>Invasive Species</i> : Early Detection: # of surveys conducted for early detection	18	18	22	22	22
<i>Invasive Species</i> : Rapid Response: # of populations (plant or animal) rapidly responded to	1	1	1	1	1
<i>Invasive Species</i> : Control/Management: # of activities conducted to support the management/control of aquatic invasive species	5 ⁶	5 ⁶	6 ⁶	6 ⁶	6 ⁶
<i>Invasive Species</i> : Control/Management: # of outreach/education activities conducted	12	12	14	14	14
DOI Intermediate Strategy: <u>PIO.2.2</u>. Manage populations to self-sustaining levels for specific species					
Supporting Workload/Activities/Outputs	2004	2005	2006	2007	2008
# of populations managed for subsistence fishery harvest	0	0	0	0	0
DOI Intermediate Strategy: <u>PIO.2.3</u>. Improve information and assessments used for decision-making					
DOI Intermediate Measure / FWM Performance Measure	2004	2005	2006	2007	2008
PIM.2.3.01. <i>Status and Trends</i> : % of populations managed or influenced by the Fisheries Program for which current condition (e.g., quantity and quality) and trend is known	26 (83/323)	26 (83/323)	29 (94/323)	29 (94/323)	29 (94/323)
<i>Management Planning</i> : % of watersheds supporting listed or depleted populations under DOI authority or influence with approved watershed plans	unknown	unknown	unknown	unknown	unknown
<i>Management Planning</i> : % of populations managed or influenced by the Fisheries Program with approved management plans	99 (321/323)	99 (321/323)	99 (321/323)	99 (321/323)	99 (321/323)
<i>Habitat Assessment</i> : % of watersheds supporting listed or depleted populations under DOI authority or influence with current habitat assessments, as called for in approved plans	unknown	unknown	unknown	unknown	unknown

<i>Technical Assistance: % of technical assistance requests fulfilled on DOI managed and influence lands and waters</i>	94 (300/320 ⁸)	94 (300/320 ⁸)	94 (300/320 ⁸)	94 (300/320 ⁸)	94 (300/320 ⁸)
Supporting Workload/Activities/Outputs	2004	2005	2006	2007	2008
<i>Management Planning: # of management plans in development, completed, or revised</i>	5	5	5	5	5
<i>Status and Trends: # of population assessments completed</i>	100 ¹⁰	100 ¹⁰	100 ¹⁰	10	10
<i>Status and Trends: # surveys conducted for baseline/trend information (invasive species)</i>	10	10	12	12	12
Supporting Workload/Activities/Outputs	2004	2005	2006	2007	2008
<i>Status and Trends: # of technical assistance/coordination activities conducted (invasive species)</i>	45	45	45	45	45
<i>Habitat Assessment: # of habitat assessments completed</i>	35	35	40	40	40
<i>Habitat Assessment: # miles of in-stream and riparian habitat assessed</i>	8 ⁴	8	10	10	15
<i>Habitat Assessment: # acres of wetland and upland habitat assessed</i>	300 ¹¹	300 ¹¹	300 ¹¹	300 ¹¹	300 ¹¹
<i>Technical Assistance: # of aquatic outreach and education events</i>	15	15	15	15	15
<i>Forge Effective Partnerships: # of National public awareness campaigns conducted (invasive species)</i>	0	0	0	0	0
<i>Forge Effective Partnerships: # of state/interstate ANS plans supported</i>	4 ⁹	5 ⁹	6 ⁹	6 ⁹	6 ⁹
<i>Forge Effective Partnerships: # of formal partnerships (invasive species)</i>	5	5	6	7	8
DOI Strategic Goal: Serving Communities					
DOI End Outcome Goal: <u>SEO.3</u>. Fulfill Indian trust responsibilities					
DOI Intermediate Strategy: <u>SIO.3.3</u>. Improve management of land and natural resource assets					
DOI Intermediate Measure / FWM Performance Measure	2004	2005	2006	2007	2008
<i>Technical Assistance: # of training sessions</i>	1	1	1	1	1
<i>Technical Assistance: % of technical assistance requests fulfilled on Tribal lands and waters</i>	100 (5/5)	100 (5/5)	100 (5/5)	100 (5/5)	100 (5/5)
<i># of new or modified cooperative agreements or Intergovernmental Personnel Act Agreements</i>	1	0	0	0	0
<i># of Tribal consultations</i>	1	1	1	1	1

Notes

1. Alewife, hickory shad, striped bass, mud puppy, brook trout, walleye.
2. Shortnose sturgeon, dwarf wedgemussel, Roanoke logperch.

3. Lack of quantitative baseline distribution data; absence of comprehensive monitoring to track change; unable to accurately predict future changes.
5. Based on the tenuous assumption that detection and response rate will be similar to that of recent years.
6. Sea lamprey, ruffe, zebra mussel (for 2004 and 2005).
7. Great Lakes: lake trout, lake sturgeon, eel, bloater, alewife, lake herring.
8. Denominator loosely estimated.
9. MA, VT, NY, and ME. MD and VA expected in next year or two. Note that activities conducted by state via implementation of these plans is imbedded in this metric (i.e., not incorporated in targets for other categories).
10. Includes multi-species assessments of lacustrine populations on National Wildlife Refuges and Department of Defense property.
11. Includes assessment of lacustrine habitat.

Appendix B: Program Performance Summary
Hatchery Operations and Maintenance

Program Performance Summary - Hatchery Operations and Maintenance

(Report percentages as numerator and denominator.

Each measure is more clearly defined in the Regional Strategic Plan Guidelines.)

DOI Strategic Goal: Resource Protection					
DOI End Outcome Goal: <u>PEO.1</u> . Improve the health of watersheds, landscapes, and marine resources that are DOI managed or influenced in a manner consistent with obligations regarding the allotment and use of water					
DOI End Outcome Measure	2004	2005	2006	2007	2008
<u>PEM.1.08</u> . Water quality: Surface waters - % of surface waters managed by DOI that meet EPA approved water quality standards					
<u>PEM.1.09</u> . Water quality: Surface waters - % of surface waters influenced by DOI that meet EPA approved water quality standards					
DOI Intermediate Strategy: <u>PIO.1.1</u> . Restore and maintain proper function to watersheds and landscapes					
DOI Intermediate Measure / NFHS Performance Measure	2004	2005	2006	2007	2008
<u>PIM.1.1.14</u> . Water pollution: % DOI facilities in compliance with NPDES permits					
% of NFHS stations that meet environmental requirements for effluent as defined by Federal, Tribal, and State law	91% (10/11)	91% (10/11)	91% (10/11)	100% (11/11)	100% (11/11)
% DOI watershed units with current wild fish health surveys	11.7% (27/231)	12.9% (30/231)	13.9% (32/231)	15.2% (35/231)	17.3% (40/231)
DOI End Outcome Goal: <u>PEO.2</u> . Sustain biological communities on DOI managed and influenced lands and waters in a manner consistent with obligations regarding the allotment and use of water					
DOI End Outcome Measure	2004	2005	2006	2007	2008
<u>PEM.2.01</u> . % of species of management concern that are managed to self-sustaining levels, in cooperation with affected States and others, as defined in approved management plans					
<u>PEM.2.02</u> . % of threatened or endangered species listed a decade or more that are stabilized or improved					
<u>PEM.2.03</u> . % of candidate species where listing is unnecessary as a result of conservation actions or agreements					
Intermediate Strategy: <u>PIO.2.2</u> . Manage populations to self-sustaining levels for specific species					
DOI Intermediate Measure / NFHS Performance Measure	2004	2005	2006	2007	2008
<u>PIM.2.2.01</u> . <i>Population enhancement or reintroduction</i> : % of planned enhancement / reintroduction objectives completed					
% of Recovery Plan production tasks implemented	85.7% (12/14)	85.7% (12/14)	85.7% (12/14)	92% (13/14)	93.3% (14/15)
% of applied science and technology tasks implemented as prescribed by Recovery Plans	50% (21/42)	50% (21/42)	54.8% (23/42)	57.1% (24/42)	61.9% (26/42)
% of post-stocking survival targets met, as prescribed by Recovery Plans, for hatchery propagated listed species	75% (6/8)	75% (6/8)	75% (6/8)	100% (8/8)	100% (8/8)
% of Fishery Management Plan production tasks implemented	73.4% (124/169)	73.4% (124/169)	75.1% (126/169)	75.2% (127/169)	75.7% (128/169)
% of applied science and technology tasks implemented as prescribed by Fishery Management Plans	69% (60/87)	69% (60/87)	69% (60/87)	70.1% (61/87)	71.2% (62/87)
% of post-stocking survival targets met, as prescribed by Fishery Management Plans, for hatchery propagated depleted species	84% (21/25)	84% (21/25)	84% (21/25)	88% (22/25)	88% (22/25)
% of marking and tagging targets met, as prescribed by approved management plans	85.2% (23/27)	85.2% (23/27)	88.8% (24/27)	92.6% (25/27)	85.2% (26/27)
# of fish and aquatic animal populations that are held in refugia	-	-	1	2	2

Intermediate Strategy: <u>PIO.2.3</u>. Improve information and assessments used for decision-making					
DOI Intermediate Measure / NFHS Performance Measure	2004	2005	2006	2007	2008
<u>PIM.2.3.01. Status and Trends:</u> % of populations managed or influenced by DOI for which current condition (e.g., quantity and quality) and trend is known <u>PIM.2.3.03. Shared data:</u> % of DOI databases with species information that is available throughout DOI and our partners <u>PIM.2.3.05. Quality:</u> % of biological research studies validated through appropriate peer review <u>PIM.2.3.06. Facilities condition:</u> Conservation and biological research facilities are in fair or better condition as measured by the Facilities Condition Index					
Share # of new applied aquatic scientific and technologic tools with partners	100% (5/5)	100% (5/5)	75% (6/8)	87.5% (7/8)	88.8% (8/9)
# of technical sections of new animal drug applications submitted for fish and aquatic populations	-	-	-	-	-
# of new techniques and culture technology tools developed	66.7% (2/3)	66.7% (2/3)	66.7% (2/3)	100% (3/3)	100% (3/3)
Facilities Condition: % of equipment and indirect infrastructure supporting assets (maintenance and administrative buildings; safety and effluent properties) maintained in fair or better condition as measured by the DOI FCI, using total repair and replacement values.	86.9% (166/191)	86.9% (166/191)	86.9% (166/191)	86.9% (166/191)	86.9% (166/191)
Facilities Condition: % of NFHS stations with completed Condition Assessments	92.3% (12/13)	92.3% (12/13)	100% (13/13)	100% (13/13)	100% (13/13)
DOI End Outcome Goal: <u>PEO.3</u>. Protect cultural and natural heritage resources					
DOI End Outcome Measure	2004	2005	2006	2007	2008
<u>PEM.3.01. Cultural resources:</u> % of cultural properties and collections on DOI inventory in good or stable condition					
DOI Intermediate Strategy: <u>PIO.3.1</u>. Increase knowledge base of cultural and natural heritage resources managed or influenced by DOI					
DOI Intermediate Measure / NFHS Performance Measure	2004	2005	2006	2007	2008
<u>PIM.3.1.01. DOI cultural and natural heritage resources:</u> % of historic and prehistoric properties inventoried <u>PIM.3.1.02. DOI cultural and natural heritage resources:</u> % museum and paleontological collections cataloged in DOI museum facilities					
% historic and prehistoric properties inventoried	0% (0/1)	0% (0/1)	0% (0/1)	0% (0/1)	100% (1/1)
% museum and paleo collections catalogued in DOI museum facilities.	0% (0/1)	0% (0/1)	0% (0/1)	0% (0/1)	100% (1/1)
DOI Intermediate Strategy: <u>PIO.3.3</u>. Reduce degradation and protect cultural and natural heritage resources					
DOI Intermediate Measure	2004	2005	2006	2007	2008
<u>PIM.3.3.02. Stabilize/curate:</u> % of museum and paleontological collections in DOI museum and facilities stabilized/curated					
DOI Intermediate Strategy: <u>PIO.3.4</u>. Increase partnerships, volunteer opportunities, and stakeholder satisfaction					
DOI Intermediate Measure / NFHS Performance Measure	2004	2005	2006	2007	2008
<u>PIM.3.4.01. Customer satisfaction:</u> Customer / stakeholder satisfaction with stewardship of DOI managed or influenced cultural and natural heritage resources (# avg. score) <u>PIM.3.4.03. Volunteers:</u> # of volunteer hours per year					
Number of volunteer hours per year	4,360	6000	6000	6040	6080
DOI Strategic Goal: Recreation					

DOI End Outcome Goal: <u>REO.2</u>. Ensure a quality experience and enjoyment of natural and cultural resources on DOI managed or partnered lands and waters					
DOI End Outcome Measure	2004	2005	2006	2007	2008
<u>REM.2.01.</u> Satisfaction with the quality of sporting / physical experiences <u>REM.2.03.</u> Satisfaction with the quality of educational experiences <u>REM.2.04.</u> Satisfaction with the quality of information experiences <u>REM.2.05.</u> Satisfaction with the quality of facilities experiences					
DOI Intermediate Strategy: <u>RIO.2.1</u>. Enhance the quality of recreation opportunities					
DOI Intermediate Measure / NFHS Performance Measure	2004	2005	2006	2007	2008
<u>RIM.2.1.01.</u> <i>Facilities condition:</i> Facilities are in fair or better condition as measured by the Facilities Condition Index					
% of mitigation production targets met NOTE: no DOI intermediate outcome measure associated with performance measure	-	-	-	-	-
lbs/\$ of healthy rainbow trout as an efficiency measure for recreation	-	-	-	-	-
# of recreational angler days	-	-	-	-	-
DOI Intermediate Strategy: <u>RIO.2.2</u>. Provide effective interpretation and education programs					
DOI Intermediate Measure / NFHS Performance Measure	2004	2005	2006	2007	2008
<u>RIM.2.2.01.</u> <i>Facilitated programs:</i> # of visitors served by facilitated programs					
# of visitors to NFHS facilities	114,700	117,700	120,000	125,000	130,000
DOI Strategic Goal: Serving Communities					
DOI End Outcome Goal: <u>SEO.3</u>. Fulfill Indian trust responsibilities					
DOI End Outcome Measure	2004	2005	2006	2007	2008
<u>SEM.3.05.</u> <i>Indian self-governance and self-determination:</i> % of Indian assets managed by Tribes that seek to do so					
DOI Intermediate Strategy: <u>SIO.3.1</u>. Improve Indian trust beneficiary services					
DOI Intermediate Measure / NFHS Performance Measure	2004	2005	2006	2007	2008
<u>SIM.3.1.02.</u> <i>Responsiveness:</i> Responsiveness of DOI to Tribal and individual trust concerns and needs (avg. score)					
% of agreements fulfilled for Tribal Trust responsibilities	-	-	-	-	-